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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,514	12/20/2006	Kiyotaka Uchimoto	4035-0182PUS1	2661

2292 7590 06/22/2010

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PULLIAS, JESSE SCOTT	
ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
06/22/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/587,514	UCHIMOTO ET AL.	
	Examiner	Art Unit	
	JESSE S. PULLIAS	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/05/10 has been entered.

2. This office action is in response to the correspondence filed 04/05/10 regarding application 10/587514, in which claims 1 and 8 were amended and new claims 21 and 22 were added. Claims 1-22 are pending in the application and have been considered.

Response to Arguments

3. On page 25 the Remarks assert:

> ***In further reply, the Advisory Action states that entering less than a complete sentence would <u>not necessarily</u> do away with the primary mode of operation of both Wakita and Appleby. Applicants completely disagree with this conclusion because, clearly, both Wakita and Appleby input complete sentences. There is no other type of input disclosed in either Wakita or Appleby. Logically, inputting less than a complete sentence eliminates the only disclosed type of input in both of these references.***

4. In response, Fig 1 of Wakita shows that key word extracting means 5 “inputs” only the key words into sentence example selecting means 7. An artisan in the field of

word searching at the time of the invention would have been familiar with entering less than a complete sentence as a search query, as evidenced by the disclosure of Chan, Col 1 lines 20-25 and 45-50, which show that well known search tools at the time of the invention were used to "search… by using keywords, phrases or queries", e.g. Yahoo, Altavista, as opposed to a search that requires input of a full sentence to complete a search query. The Remarks allege on page 25-26 that the office action does not provide a reason why one of ordinary skill in the art would be properly motivated to input less than a complete sentence; however as was explained on page 9 of the Final Rejection 11/04/09, it would be helpful for at least the reason that it "insures that the target language search engine will recognize it" as noted by Chan (Col 4 lines 22-29). See pages 9-10 of the Final Rejection mailed 11/04/09. Further, as explained in the advisory action 02/23/10, one skilled in the art at the time of the invention would have predicted that allowing one or more keywords in the source language to be input via an input means without inputting a full text sentence in the source language would be helpful because a user would be able to search for words or a phrase without having to know all the grammatical and syntactic rules specific to the source language which are necessary for formulating a proper complete sentence for input. As the references are all drawn to multilingual applications, it would have been a reasonable prediction that a user may have difficulty formulating a complete sentence in a language in which the user is not fluent.

5. On page 26 the Remarks allege regarding Chan, "presumably, a query is in the form of a complete sentence. So Chan, like Wakita and Appleby, enter complete

sentences." However Chan lines 22-25 explicitly disclose "search tools that help the users to search and retrieve specific information from the Web by using keywords, phrases, or queries". For example, on Col 2 lines 32-44, Chan provides "shrimp caviare" as an example query, which is not a complete sentence.

6. On page 26, the Remarks assert:

> ***Furthermore, as amended, claim 1 recites that a target-language keyword-related phrase is stored as a pair of keyword-related phrases in the source language and in the target language. Applicants respectfully submit that this feature is not found in the applied art.***

7. In response, the examiner respectfully disagrees for at least the reason that Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means. For example, in Fig 19a and [0176], Appleby shows "the white car" and "la voiture blanche" as a pair of keyword-related phrases in the source language and the target language. In [0042-43] Appleby discloses a mapping and linking program for the target and source words together, which implies the use of tables stored in memory.

8. On page 26, the Remarks further assert:

> ***Additionally, as amended, claim 1 recites that the text generation candidate means performs dependency relationships of each keyword-related phrase in the course language and in the target language by assuming dependency relationships among the keyword-related phrases. Applicants respectfully submit that this feature is not found in the applied art.***

9. In response, the examiner respectfully disagrees for at least the reason that Appleby discloses a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language by assuming dependency relationships among keyword-related phrases because in [0169], [0171] Appleby teaches that where a matching surface and dependency structure is found for each translation unit in the assembled dependency structure, the corresponding target head nodes are retrieved so as to construct the corresponding target dependency structure. In other words, Appleby determines dependency relationships in the source language and based on those, assumes dependency relationships in the target language. The argument on page 27 regarding amended claim 8 is similar and is not persuasive for similar reasons.

10. The arguments regarding new claims 21 and 22 on pages 28-31 rely on the reasons presented regarding claims 1 and 8, and so are not persuasive for the same reasons above.

11. The remaining arguments (not in both bold and italics) in the Remarks were submitted in previous responses and have already been addressed in the advisory action 02/23/10.

Claim Objections

12. Claim 21 is objected to because of the following informalities: In line 13, the examiner assumes "n" should be "in". In line 20 the examiner assumes “indication” should be “indicating”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1, 5-8, 12-14, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), in further view of Chan et al. (6,604,101).

With respect to claims 1 and 8, Wakita discloses a method and apparatus for generating a text sentence in a target language different from a source language **(Abstract)**, based on one or more words in the source language input as keywords **(Abstract)**, the method comprising: an input step in which the one or more keywords in the source language are input via an input means **(Fig 1,** key word extracting means 5 extracts keywords which are input to sentence example selecting means 7**)**, the one or more keywords being a segment of the full text sentence in the source sentence **(Fig 7,** input sentence and extracted keywords**)**; a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including at least one of the keywords from a parallel corpus database **(Fig 2a)** including partial correspondence information indicating correspondence between a word/phrase in the source language and a word/phrase in the target language in each sentence pair

([0119], key words are paired in the example DB3**)**; a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair **([1026-8],** keywords are combined to make phrases, which are found in the examples**,** also **Fig 5b)**; a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**)**; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output**)**.

Wakita does not specifically mention the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases.

Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory**)**, and a text candidate generation means performs dependency relationships

of each keyword-related phrase in the source language and in the target language and assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases, as taught by Appleby, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

With respect to claims 21 and 22, Wakita discloses a method and apparatus for generating a text sentence in a target language different from a source language **(Abstract)**, based on one or more words in the source language input as keywords **(Abstract)**, the method comprising:

an input step in which the one or more keywords in the source language are input via an input means **(Fig 1,** key word extracting means 5 extracts keywords which are input to sentence example selecting means 7**)**, the one or more keywords being a segment of the full text sentence in the source sentence **(Fig 7,** input sentence and extracted keywords**)**;

a sentence pair extraction step in which a sentence pair extraction means extracts one or more sentence pairs each including at least one of the keywords from a parallel corpus database **(Fig 2a)** including partial correspondence information indicating correspondence between a word/phrase in the source language and a

word/phrase in the target language in each sentence pair **([0119],** key words are paired in the example DB3**)**;

a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair **([1026-8],** keywords are combined to make phrases, which are found in the examples**,** also **Fig 5b)**, where the target-language keyword-related phrase is a content word **(Fig 5b)**;

a word sequence generation rule acquisition step in which a word sequence generation rule acquisition unit searches for a pair of sentences including the content word from a parallel corpus **(Fig 2a)** and performs morphological and syntactic analysis, extracts word sequences including the content word from the pair of sentences, and acquires and stores a word sequence generation rule indicating how to generate the keyword-related phrase **(Fig 8)**;

a word generation candidate generation step in which a word sequence candidate generator generates sequence candidates of the target language included in a text sentence candidate in accordance with the word sequence generation rules **(Fig 8)**

a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**)**; and an output step in which at least one text sentence candidate is output from an output means corresponding to the full text sentence in the source language **(Fig 8,** text output**)**.

Wakita does not specifically mention the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases.

Appleby discloses phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means **(Fig 19a, [0176],** and **[0042-43]** imply the use of tables stored in memory**)**, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the source language and in the target language and assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases **([0169], [0171])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the phrases are stored as a pair of keyword-related phrases in the source language and in the target language in the form of a keyword-related phrase table in a storage means, and a text candidate generation means performs dependency relationships of each keyword-related phrase in the

source language and in the target language assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table and generating one or more target language text sentence candidates by assuming dependency relationships among the keyword related phrases, as taught by Appleby, in order to require less examples for translation, since phrases are more general, as suggested by Appleby **([0011] [0005]).**

Wakita and Appleby do not specifically mention the one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language.

Chan discloses an input step in which one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language **(Fig 2,** query input in source language 118**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that one or more keywords in the source language are input via an input means without inputting a full text sentence in the source language, in order to dialectally standardize the keyword or query input by the user to a more commonly known or used term, which would be distinctly helpful because standardizing the word to a commonly known word insures that the target language search engine will recognize it, as noted by Chan **(Col 4 lines 22-29).**

With respect to claims 5 and 12, Wakita and Appleby disclose a text sentence is generated a target language by performing the sentence pair extraction step, the

keyword-related phrase storage step, and the text sentence candidate generation step for each combination of source and target language; and in the output step, a text sentence candidate of one language is output **(See claim 1).**

Wakita and Appleby do not specifically mention two or more languages are output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the invention of Wakita and Appleby to output two or more languages instead of one, since the translation device disclose by Appleby may be viewed as a "base device" upon which outputting two languages instead of one may be viewed as an improvement; translation from one languages to two or more was a known technique at the time of the invention; and one of ordinary skill in the art would have recognized that applying the known technique of translating into two or more languages would have predictably resulted in two or more output translations which would have improved the invention by making it useful to a multilingual audience.

With respect to claims 6 and 13, Wakita discloses a text sentence candidate generation step **(Fig 1,** output sentence generating means 8**) (Fig 7)** generates one or more target-language text sentence candidates **(Fig 8,** output sentence generating means 66**).**

Wakita does not specifically mention the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text

candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate, and in the output step, at least one set of text sentences in the source and target languages is output from the output means.

Appleby discloses a text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table **([0045]** target dependency structure D**)**, and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate **([0045]** target dependency structure C**)**, and in an output step, at least one set of text sentences in the source and target languages is output from the output means **(Fig 6)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that the text candidate generation means assumes dependency relationships among keyword-related phrases in the target language described in the keyword-related phrase table, and a source-language text candidate generation means assumes dependency relationships among keyword-related phrases in the source language described in the keyword-related phrase table and generates one or more source-language text sentence candidate for reasons similar to those of claim 1. I would have been further obvious to modify the invention such that in the output step, at least one set of text sentences in the source and target

languages is output from the output means, in order to allow the user to confirm the correct sentence in the source language has been translated.

With respect to claim 7 and 14, Wakita does not, but Appleby discloses after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates each text sentence candidate **([0169], [0253],** translation units are evaluated to find a matching structure, a score is calculated), wherein in the output step, at least one text sentence candidate is selected based on the evaluation and the selected text sentence candidate is output **([0170], [0254],** highest scoring, the target surface structure determined from dependency structure and used to generate target sentence text **[0171]).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with the highest score is selected based on the evaluation and the selected text sentence candidate is output, in order to make the output sentence more resistant to errors caused by ambiguous grammar, as suggested by Wakita **([0021]).**

With respect to claim 19, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater

than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output **([0246-0254],** evaluate scores, selecting the highest**)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold is selected based on the evaluation and the selected text sentence candidate is output, in order to address the problem of not knowing the "correct" analysis from among the several analysis **(Appleby [0246]),** thereby improving the translation result.

With respect to claim 20, Wakita does not, but Appleby discloses an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold **([0246-0254],** evaluate scores, selecting the highest**)**, or as many text candidates with highest scores as a predetermined number N are selected based on the evaluation and the selected text sentence candidate is output.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita to include that after the text sentence candidate generation step, an evaluation step in which an evaluation means evaluates a score for each text sentence candidate, wherein in the output step, at least one text sentence candidate with a score greater than a predetermined threshold, for reasons

similar to those of claim 19.

15. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607).

With respect to claims 2 and 9, Wakita discloses after the sentence pair extraction step, one of the several competing translations is selected **(Fig 1,** sentence example selecting means selects one of examples from example database 3**)**.

Wakita does not specifically mention discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table.

Appleby discloses a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table **(Fig 19a** show translation components which are stored with

correspondence information between the source and target language phrases, see also **[0176])**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that a keyword-related phrase storage step in which a target-language keyword-related phrase corresponding to each source-language keyword-related phrase is detected from the partial correspondence information of each sentence pair and stored in the form of a keyword-related phrase table in a storage means wherein a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table, for reasons similar to those of claim 1.

Wakita, Appleby, and Chan do not specifically mention if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related **(Col 6 lines 31-34,** sentence is segmented into each morpheme string**)** phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step **(Col 6 lines 58-59,** plurality of subtrees are extracted due to ambiguity, and **Col 7 lines 50-57,** each subtree is transformed to target language and

sentence produced for each one**)** and if two or more different keyword-related phrases in the source language are detected from the ambiguity **(see above)**, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(Col 9 lines 63-67,** partial translated sentence candidates are generate and the user is allowed to select one**)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the partial correspondence information, then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases, wherein in the keyword-related phrase storage step, if the user selects a keyword-related phrase from the presented two or more keyword-related phrases, a keyword-related phrase in the target language corresponding to the selected keyword-related phrase in the source language is described in the keyword-related phrase table as taught by Fukumochi, in order to resolve disadvantages associated with ambiguity in an input sentence, as suggested by Fukumochi **(Col 1 lines 32-37).**

16. Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wakita et al. (2002/0010573) in view of Appleby (2005/0171757), further view of Chan et al. (6,604,101), in further view of Tolin et al. (5,490,061).

With respect to claims 4 and 11, Wakita, Appleby, and Chan do not specifically mention in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word.

Tolin discloses one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word **(Abstract,** words are subjected to morphological word stripping, which replaces with the root word which is similar since it has the same meaning**).**

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita and Appleby by in the sentence pair extraction step, at the beginning of the step, one or more morphemes are added to or subtracted from a keyword input in the input step or a keyword input in the input step is replaced with a similar word as taught by Tolin, in order to reduce database size by only having to store root words in a dictionary, as suggested by Tolin **(Title and Abstract).**

17. Claims 3, 10, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakita et al. (2002/0010573) in view of Appleby (2005/0171757) further view of Chan et al. (6,604,101), in further view of Fukumochi et al. (5,321,607), in further view of Sata et al. (5,608,623).

With respect to claims 3 and 10, Wakita does not, but Appleby discloses each

time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed **([0171],** target text generation is done by recursively traversing a target surface structure to extract the target text from the target surface head and daughter components, see also claim 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita such that each time one keyword is input in the input step, the sentence pair extraction step and the keyword-related phrase storage step are performed, in order to provide continuous translation.

Wakita, Appleby, and Chan do not specifically mention a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases.

Fukumochi discloses a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases **(See claim 2)**.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Wakita, Appleby, and Chan by including a keyword-related phrase presentation step in which if, in the sentence pair extraction step, two or more sentence pairs are extracted for a keyword input in the input step and if two or more different keyword-related phrases in the source language are detected from the ambiguity then the detected two or more keyword-related phrases in the source language are presented to a user such that the user is allowed to select a keyword-related phrase from the presented two or more keyword-related phrases for reasons similar to those of claim 2.

Wakita, Appleby, Chan, and Fukumochi do not specifically mention a co-occurrence word extraction step in which one or more co-occurrence words which co-occur with the keyword in the sentence pair are extracted and the extracted one or more co-occurrence words are described in a co-occurrence word table.

Sata discloses a co-occurrence word extraction step in which one or more co-occurrence words which are extracted **(Abstract, lines 1-5)** and the extracted one or more co-occurrence words are described in a co-occurrence word table **(Abstract lines 4-5, Fig 8)**.

It would have been obvious to one of ordinary skill in the art to modify the invention of Wakita, Appleby, Chan, and Fukumochi by including a co-occurrence word extraction step as taught by Sata and using the keyword related presentation step disclosed by Fukumochi to present co-occurrence words for selection such that co-occurrence words are presented to a user such that the user can select one or more co-

occurrence word from the co-occurrence words described in the co-occurrence word table in order to avoid a word of the highest frequency of use being simply adopted as its equivalent in the second language even when there are a plurality of equivalents in the second language, making the translation meaningless or unnatural, as suggested by Sata **(Col 1 lines 40-45).**

Wakita, Appleby, Fukumochi, Chan, and Sata do not specifically mention that if one or more co-occurrence words are selected by the user, the selected one or more co-occurrence words are input as new keywords in the input step, and the text sentence candidate generation step is performed after completion of inputting all keywords, but one skilled in the art at the time of the invention would have known to input the selected words as new keywords since the user is selecting them in the context of entering a word or phrase for translation, and including them would avoid the risks of meaningless or unnatural translations discussed above.

Claim 15 simply combines the salient features of claims 3 and 6, and so is rejected for reasons similar to those of claims 3 and 6.

Claim 16 simply combines the salient features of claims 3 and 7, and so is rejected for reasons similar to those of claims 3 and 7.

Claim 17 simply combines the salient features of claims 10 and 13, and so is rejected for reasons similar to those of claims 10 and 13.

Claim 18 simply combines the salient features of claims 10 and 14, and so is rejected for reasons similar to those of claims 10 and 14.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. 2003/0061023, Menezes et al. disclose aligning nodes of dependency structures obtained from a bilingual corpus which expands mappings obtained from the aligned dependency structures for translation

b. 2004/0181389 Bourigault et al. disclose syntactical analysis of a corpus to learn dependency relationships

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse Pullias whose telephone number is 571/270-5135. The examiner can normally be reached on M-F 9:00 AM - 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571/272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571/270-6135.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jesse Pullias/
Examiner, Art Unit 2626

/David R Hudspeth/

Supervisory Patent Examiner, Art Unit 2626